AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A method for producing a steel rail having a high content of carbon, wherein the rail contains, in mass%,

C: more than 0.85% but less than or equal to 1.40%,
Si: 0.05 to 2.00%,
Mn: 0.05 to 2.00%,
B: 0.0001 to 0.0050%,
optionally one or more selected from
Cr: 0.05 to 2.00%,
Mo: 0.01 to 0.50%,
Co: 0.003 to 2.00%,
Cu: 0.01 to 1.00%,
Ni: 0.01 to 1.00%,
Ti: 0.0050 to 0.0500%,
Mg: 0.0005 to 0.0200%,
Ca: 0.0005 to 0.0150%,
Al: 0.0100 to 1.00%,
Zr: 0.0001 to 0.2000%,
N: 0.0060 to 0.0200%,
V: 0.005 to 0.500% and
Nb: 0.002 to 0.050%, and

the balance being Fe and unavoidable impurities, comprising:

finish rolling said rail in two consecutive passes, with a reduction rate per pass of a cross-section of said rail of 2-30%,

wherein conditions of said finish rolling satisfy the following relationship:

$S \leqq CPT1$

wherein CPT1 is the value expressed by the following expression 1

$CPT1 = 800 / (C \times T)$ (expression 1)

wherein

S is the maximum rolling interval time (seconds), and

(C × T) is ~~defines~~ defined as follows;

C is the carbon content of the steel in mass%, ~~wherein the carbon content is more than 0.85 mass%, but less than or equal to 1.40 mass%, based on the total mass of the steel,~~ and T is the maximum surface temperature (°C) of a rail head.

2. (Currently Amended) A method for producing a steel rail having a high content of carbon in mass%,

C: more than 0.85% but less than or equal to 1.40%,
Si: 0.05 to 2.00%,
Mn: 0.05 to 2.00%,
B: 0.0001 to 0.0050%,
optionally one or more selected from
Cr: 0.05 to 2.00%,
Mo: 0.01 to 0.50%,
Co: 0.003 to 2.00%,
Cu: 0.01 to 1.00%,
Ni: 0.01 to 1.00%,
Ti: 0.0050 to 0.0500%,
Mg: 0.0005 to 0.0200%,
Ca: 0.0005 to 0.0150%,
Al: 0.0100 to 1.00%,
Zr: 0.0001 to 0.2000%,
N: 0.0060 to 0.0200%,
V: 0.005 to 0.500% and
Nb: 0.002 to 0.050%, and

the balance being Fe and unavoidable impurities, comprising:

finish rolling said rail in three or more passes, with a reduction rate per pass of a cross-section of said rail of 2-30%,

wherein conditions of said finish rolling satisfy the following relationship:

$S \leqq CPT2$

wherein CPT2 is the value expressed by the following expression 2,

$CPT2 = 2400 / (C \times T \times P)$ (expression 2)

wherein

S is the maximum rolling interval time (seconds), and

$(C \times T \times P)$ is ~~defines~~ defined as follows;

C is the carbon content of the steel rail in mass%, ~~wherein the carbon content is more than 0.85 mass%, but less than or equal to 1.40 mass%, based on the total mass of the steel, and,~~and

T is the maximum surface temperature (°C) of a rail head, and P is the number of passes, which is 3 or more.

Claims 3 -12 (CANCELLED)

13. (Currently Amended) The method according to claim 1 ~~or claim 2~~, wherein chemical composition(s) included in said rail meet the following relationship:

$0.30 \geqq V(mass\%) + 10 \times Nb(mass\%) + 5 \times N(mass\ \%) \geqq 0.04$

14. (Currently Amended) The method according to claim 1 ~~or claim 2~~, further comprising:

immediately after said finish rolling, cooling the surface of said rail head at a cooling rate of 2-30°C/sec. until the surface temperature reaches 950-750°C.

15. (Original) The method according to claim 14, further comprising:

after said cooling step, when the temperature of the rail head is more than 700°C, cooling the surface of the rail head at a cooling rate of 2-30°C/sec. until the surface temperature reaches at least 600°C; and then

allowing the rail to further cool at room temperature.

16. (Currently Amended) The method according to claim 1 ~~or claim 2~~, further comprising:

after said finish rolling process, when the temperature of the rail head is more than 700°C, cooling the surface of the rail head at a cooling rate of 2-30°C/sec. until the surface temperature reaches at least 600°C, and then

allowing the rail to further cool at room temperature.

17. (New) The method according to claim 2, wherein chemical composition(s) included in said rail meet the following relationship:

$$0.30 \geqq V(\text{mass}\%) + 10 \times Nb(\text{mass}\%) + 5 \times N(\text{mass}\%) \geqq 0.04$$

18. (New) The method according to claim 2, further comprising:

immediately after said finish rolling, cooling the surface of said rail head at a cooling rate of 2-30°C/sec. until the surface temperature reaches 950-750°C.

19. (New) The method according to claim 18, further comprising:

after said cooling step, when the temperature of the rail head is more than 700°C, cooling the surface of the rail head at a cooling rate of 2-30°C/sec. until the surface temperature reaches at least 600°C; and then

allowing the rail to further cool at room temperature.

20. (New) The method according to claim 2, further comprising:

after said finish rolling process, when the temperature of the rail head is more than 700°C, cooling the surface of the rail head at a cooling rate of 2-30°C/sec. until the surface temperature reaches at least 600°C, and then

allowing the rail to further cool at room temperature.